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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,947	11/13/2003	Forrest Lee Wilson	SJO920030075US1	9548

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Brian C Kunzler
8 East Broadway Suite 600
Salt Lake City, UT 84111

EXAMINER

PHAM, HUNG Q

ART UNIT	PAPER NUMBER
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2168

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/712,947

Applicant(s)

WILSON ET AL.

Examiner

HUNG Q. PHAM

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-12,14-20,22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-12,14-20,22 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

- **Claim Objections**

The objection of claim 7 has been withdrawn in view of the amendment.

- **Claim Rejections - 35 USC § 101**

The rejection of claims 17-23 under 35 U.S.C. § 101 has been withdrawn in view of the amendment.

- **Claim Rejections - 35 USC § 102**

Applicants' arguments with respect to the rejection of claims 1-4, 6-12, 14-20, 22 and 23 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 9 and 17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As in claim 1, the claimed limitation, *a target volume having the target LUN on the SCSI bus*, at line 8 and the claimed limitation, *the target volume at the target LUN on the SCSI bus*, at lines 12-13, and receiving updates... by directing all write commands to the source volume and the target volume were not described in the specification.

As in claim 9, the claimed limitation, *a target volume having the target LUN on the SCSI bus*, at line 6 and the claimed limitation, *the target volume at the target LUN on the SCSI bus*, at lines 10-11, and receiving updates... by directing all write commands to the source volume and the target volume were not described in the specification.

As in claim 17, the claimed limitation, *a target volume having the target LUN on the SCSI bus*, at line 10 and the claimed limitation, *the target volume at the target LUN on the SCSI bus*, at lines 14-15, and receiving updates... by directing all write commands to the source volume and the target volume were not described in the specification.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 7, 9, 15, 17 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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As in claims 1, 9 and 17, the clause *during migration* references to a particular step in the claim. It is unclear what step is being referenced.

As in claims 7, 15 and 23, the clause *the process* references to a particular step in the claim. It is unclear what step is being referenced.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 6-12, 14-20, 22 and 23 are rejected under 35 U.S.C. 102(e) as anticipated by Todd et al. [USP 7,093,088 B1], Atkin [USP 6,145,066] and Pooni et al. [US 20040064459 A1] or, in the alternative, under 35 U.S.C. 103(a) as obvious over Todd et al. [USP 7,093,088 B1], Atkin [USP 6,145,066] and Pooni et al. [US 20040064459 A1].

Regarding claims 1, 9 and 17, Todd teaches *a computer system comprising a server adapted to interface with a plurality of data storage devices* (Todd, FIG. 2), *said computer system configured to migrate computer data files from one of said data storage device as a source to a second data storage device as a target* (Todd, Abstract) by:

requesting data from a source volume on the source data storage device, as a bit image of a logical volume (Todd, Col. 9 Lines 33-53), *wherein the source volume is mapped to a target logical unit number (LUN)* (Todd, Col. 22 Lines 29-33);

outputting the data to a target volume and requesting the data to be written on the target data storage device as a bit image of the logical volume (Todd, Col. 20 Lines 35-52 and Col. 22 Lines 29-33).

Todd does not explicitly teach the claimed limitations, *receiving updates at the source volume and the target volume during migration by directing all write commands to the source volume and the target volume*, the LUN is on a *small computer system interface (SCSI) bus*, and the target volume *having the target LUN on the SCSI bus*.

However, as disclosed by Todd at Col. 20 Lines 35-52, the system that implements the data migration is EMC SYMMETRIX system. As further disclosed by Todd, the communication bus of the system can be implemented as *SCSI bus* (Todd, Col. 1 Lines 50-53).

As disclosed by Atkin (Atkin, Col. 2 Lines 13-21), the EMC SYMMETRIX *receiving updates at the source volume and the target volume during migration by directing all write commands to the source volume and the target volume*. Thus, the claimed limitation, *receiving updates at the source volume and the target volume during migration by directing all write commands to the source volume and the target volume*, is inherited from EMC SYMMETRIX.

As disclosed by Pooni, the LUN identifies the logical unit within a SCSI target device, and the logical unit is defined as addressable blocks of storage from one or more disks within the SCSI device (Pooni, Paragraph 0018). The path to a logical unit of a SCSI device is determined by LUN on SCSI bus (Pooni, Paragraph 0021). Thus, if the communication bus is SCSI bus as disclosed by Todd, the LUN is on SCSI bus, and the target volume *having the target LUN on the SCSI bus*.

Regarding claims 1, 9 and 17, Todd teaches *a computer system comprising a server adapted to interface with a plurality of data storage devices* (Todd, FIG. 2), *said computer system configured to migrate computer data files from one of said data storage device as a source to a second data storage device as a target* (Todd, Abstract) by:

requesting data from a source volume on the source data storage device, as a bit image of a logical volume (Todd, Col. 9 Lines 33-53), *wherein the source volume is mapped to a target logical unit number (LUN)* (Todd, Col. 22 Lines 29-33);

outputting the data to a target volume and requesting the data to be written on the target data storage device as a bit image of the logical volume (Todd, Col. 20 Lines 35-52 and Col. 22 Lines 29-33).

Todd does not explicitly teach the claimed limitations, *receiving updates at the source volume and the target volume during migration by directing all write commands to the source volume and the target volume*, the LUN is *on a small computer system interface (SCSI) bus*, and the target volume *having the target LUN on the SCSI bus*.

However, as disclosed by Todd at Col. 20 Lines 35-52, the system that implements the data migration is EMC SYMMETRIX system. As further disclosed by Todd, the communication bus of the system can be implemented as *SCSI bus* (Todd, Col. 1 Lines 50-53).

As disclosed by Atkin (Atkin, Col. 2 Lines 13-21), the EMC SYMMETRIX *receiving updates at the source volume and the target volume during migration by directing all write commands to the source volume and the target volume*. Thus, the claimed limitation, *receiving updates at the source volume and the target volume during migration by directing all write commands to the source volume and the target volume*, is inherited from EMC SYMMETRIX.

As disclosed by Pooni, the LUN identifies the logical unit within a SCSI target device, and the logical unit is defined as addressable blocks of storage from one or more disks within the SCSI device (Pooni, Paragraph 0018). The path to a logical unit of a SCSI device is determined by LUN on SCSI bus (Pooni, Paragraph 0021). Thus, if the communication bus is SCSI bus as suggested by Todd, the LUN is on SCSI bus, and the target volume *having the target LUN on the SCSI bus*.

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the Todd system by applying the LUN on the SCSI bus to the target volume as taught by Pooni in order to direct the request to a particular volume of a target SCSI device.

Regarding claims 2, 10 and 18, Todd, Atkin and Pooni, teach all of the claimed subject matter as discussed above with respect to claims 1, 9 and 17, Todd further discloses *the computer system is adapted to request data on the source storage device as a bit image of a logical volume, cylinder by cylinder, track by track, and bit by bit, and to thereafter write the data to the target data storage device as a bit image of a logical volume, cylinder by cylinder, track by track, and bit by bit* (Todd, Col. 48 Lines 5-14).

Regarding claims 3, 11 and 19, Todd, Atkin and Pooni, teach all of the claimed subject matter as discussed above with respect to claims 1, 9 and 17, Pooni further discloses *the computer system is adapted to migrate logical volumes in accordance with a map file having source and target volume parameters* (Pooni, Paragraph 0021).

Regarding claims 4, 12 and 20, Todd, Atkin and Pooni, teach all of the claimed subject matter as discussed above with respect to claims 1, 9 and 17, Todd further discloses *the logical volume comprises a physical volume* (Todd, Col. 9 Lines 30-53).

Regarding claims 6, 14 and 22, Todd, Atkin and Pooni, teach all of the claimed subject matter as discussed above with respect to claims 1, 9 and 17, Todd further discloses *the computer system is further adapted to place a busy condition on the source volume after data migration* (Todd, Col. 25 Line 62-Col. 26 Line 11, retire option). Pooni discloses the claimed limitation *set a SCSI ID to identify the target volume for access* (Pooni, Paragraph 0021).

Regarding claims 7, 15 and 23, Todd, Atkin and Pooni, teach all of the claimed subject matter as discussed above with respect to claims 1, 9 and 17, Todd further discloses *the computer system is adapted to place a busy condition on the source volume after data migration* (Todd, Col. 25 Line 62-Col. 26 Line 11, retire option), *and repeating the process on a logical volume by logical volume basis* (Todd, Col. 25 Lines 11-

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24), *whereby a user accesses data from the source volume and moves off of it at substantially the same time* (Todd, Col. 25 Line 62-Col. 26 Line 11). Pooni discloses the claimed limitation *set a SCSI ID to identify the target volume for access* (Pooni, Paragraph 0021).

Regarding claims 8 and 16, Todd, Atkin and Pooni, teach all of the claimed subject matter as discussed above with respect to claims 1 and 9, Todd further discloses *computer data files are accessible to an end user from either data storage device* (Todd, Col. 10 Lines 24-24-36).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

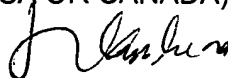
Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG Q. PHAM whose telephone number is 571-272-4040. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIM T. VO can be reached on 571-272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you

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would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



HUNG Q PHAM

Examiner

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October 30, 2006